

REMARKS

These Remarks are presented in response to the Office Action. By this paper, claim 5 is canceled and claims 1, 6, and 16 are amended. Claims 1-4 and 6-25 are now pending in this application as a result of the aforementioned cancellation.

In connection with the matters contemplated herein, Applicant respectfully notes that the following discussion should not be construed to constitute an exhaustive enumeration of the distinctions between the claims of the present application and the references cited by the Examiner. Instead, such distinctions are presented solely by way of example. Consistent with the foregoing, the discussion herein is not intended, and should not be construed, to prejudice or foreclose contemporaneous or future consideration, by the Applicant, of additional or alternative distinctions between the claims of the present application and the references cited by the Examiner, and/or the merits of additional or alternative arguments.

Moreover, Applicant notes that the remarks and amendments presented herein have been made merely to clarify the claimed embodiments from elements purported by the Examiner to be taught by the cited references. Such remarks, or a lack of remarks, and amendments are not intended to constitute, and should not be construed as, an acquiescence, on the part of the Applicant: as to the purported teachings or prior art status of the cited references; as to the characterization of the cited references advanced by the Examiner; or as to any other assertions, allegations or characterizations made by the Examiner in this case. Applicant reserves the right to challenge the purported teaching and prior art status of the cited references at any appropriate time.

Reconsideration of this application is respectfully requested in view of the following remarks. For the convenience and reference of the Examiner, the remarks of the Applicant are presented in the order in which the corresponding issues were raised in the Office Action.

I. Claim Rejections Under 35 U.S.C. § 102(e)

Applicant respectfully notes that a claim is anticipated under 35 U.S.C. § 102(e) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Further, the identical invention must be shown in as complete detail as is contained in the claim. Finally, the elements must be arranged as required by the claim. See Manual of Patent Examining Procedure ("M.P.E.P.") § 2131.

The Examiner has rejected claims 1 and 3 under 35 U.S.C. § 102(e) as being anticipated by US 2005/0053127 A1 to Shiue et al. ("*Shiue*"). The Examiner has also rejected claims 1 and 4 under 35 U.S.C. § 102(e) as being anticipated by US 2004/0136731 A1 to Wang et al. ("*Wang*"). The Examiner has also rejected claims 1 and 5-6 under 35 U.S.C. § 102(e) as being anticipated by US 2005/0018765 A1 to Endres et al. ("*Endres*").¹ Applicant disagrees with the contentions of the Examiner and submits that, for at least the reasons outlined below, the rejection of those claims should be withdrawn.

a. claim 1 and 3-5

Applicant has amended claim 1 herein to recite, among other things, "A method of mitigating dispersion effects in a high frequency communications channel, the method comprising: ... calculating a figure of merit that represents a quality of the electrical signal ... wherein the figure of merit is determined from the equation:

$$F = \frac{M_4}{(M_2)^2}$$

wherein F is the value of the figure of merit; $A(t)$ is the amplitude of the electrical signal; M_4 is the fourth moment of the electrical signal and equals the time average of $A^4(t)$, and M_2 is the second moment of the electrical signal and equals the time average of $A^2(t)$." Support for this amendment can be found in the application, for example, at paragraph [0025].

However, the Examiner has not established that *Shiue*, *Wang*, or *Endres* teaches or suggests the arrangement required by amended claim 1. By way of example, paragraphs [0042] and [0043] of *Endres*, cited by the Examiner, do not appear to disclose an equation where the fourth moment is divided by the square of the second moment, as recited in amended claim 1.

Applicant thus submits that the rejection of claim 1, as well as the rejection of corresponding dependent claims 3, and 4, should be withdrawn, at least because the Examiner has not established that *Shiue*, *Wang*, or *Endres* discloses each and every element as set forth in claim 1.

Additionally, inasmuch as claim 5 is canceled by this paper, the rejection of claim 5 has been rendered moot and should accordingly be withdrawn.

¹ Because *Shiue*, *Wang*, and *Endres* are only citable under 35 U.S.C. § 102(e), Applicant does not admit that *Shiue*, *Wang*, and *Endres* are in fact prior art to the claimed invention, but reserve the right to swear behind *Shiue*, *Wang*, and *Endres* if necessary to remove them as references.

b. claim 6

Applicant has similarly amended claim 6 herein to recite, among other things, "A signal conditioner for use in mitigating the effects of dispersion in a signal, the signal conditioner comprising: ... a circuit ... configured to calculate a figure of merit ... wherein the figure of merit is determined from the equation:

$$F = \frac{M_4}{(M_2)^2}$$

wherein F is the value of the figure of merit; $A(t)$ is the amplitude of the output signal; M_4 is the fourth moment of the output signal and equals the time average of $A^4(t)$, and M_2 is the second moment of the output signal and equals the time average of $A^2(t)$." Support for this amendment can be found in the application, for example, at paragraph [0025].

However, as discussed above, the Examiner has not established that *Endres* teaches or suggests the arrangement required by amended claim 6. Applicant thus submits that the rejection of claim 6 should be withdrawn, at least because the Examiner has not established that *Endres* discloses each and every element as set forth in claim 6.

II. Claim Rejections Under 35 U.S.C. § 103(a)

Applicant respectfully notes at the outset that in order to establish a *prima facie* case of obviousness, it is the burden of the Examiner to demonstrate that three criteria are met: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; second, there must be a reasonable expectation of success; and third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See M.P.E.P. § 2143.

The Examiner has rejected claim 2 under 35 U.S.C. § 103 as being unpatentable over *Shiue*. The Examiner has also rejected claims 7-9 and 12-15 under 35 U.S.C. § 103 as being unpatentable over *Endres* in view of *Wang*. The Examiner has also rejected claim 10 under 35 U.S.C. § 103 as being unpatentable over *Endres* and *Wang* as applied to claims 6-9 and 12-15 above, and further in view of US 6,252,913 B1 issued to Kientz et al. ("*Kientz*"). The Examiner has also rejected claim 11 under 35 U.S.C. § 103 as being unpatentable over *Endres* and *Wang* as applied to claims 6-9 above, and further in view of US 6,798,854 B1 issued to Kolze et al. ("*Kolze*"). The Examiner has also rejected claims 16-19 and 22-

25 under 35 U.S.C. § 103 as being unpatentable over US 2004/0114700 A1 to Yu et al. ("Yu") in view of Wang. The Examiner has also rejected claim 20 under 35 U.S.C. § 103 as being unpatentable over Yu and Wang as applied to claims 16-19 and 22-25 above, and further in view of Kientz. The Examiner has also rejected claim 21 under 35 U.S.C. § 103 as being unpatentable over Yu and Wang as applied to claims 16-19 and 22-25 above, and further in view of Kolze. Applicant disagrees with the contentions of the Examiner however and submits that, for at least the reasons outlined below, the rejection of those claims should be withdrawn.

a. claim 2

As discussed above, Applicant has amended claim 1 herein to recite, among other things, "wherein the figure of merit is determined from the equation:

$$F = \frac{M_4}{(M_2)^2}$$

As noted above in connection with the discussion of claim 1 however, the Examiner has not established that Shiue, either alone or in combination with any other reference, teaches or suggests the equation as recited in amended claim 1, and as required by dependent claim 2.

In view of the foregoing, Applicant submits that the Examiner has not established a *prima facie* case of obviousness with respect to claim 2, at least because the purportedly modification fails to include all the limitations of claim 2, as herein amended. Applicant accordingly submits that the rejection of claim 2 should be withdrawn.

b. claims 7-9 and 12-15

As discussed above, Applicant has amended claim 6 herein to recite, among other things, "wherein the figure of merit is determined from the equation:

$$F = \frac{M_4}{(M_2)^2}$$

As noted above in connection with the discussion of claim 6 however, the Examiner has not established that Endres or Wang, either alone or in combination with any other reference, teaches or suggests the equation as recited in claim 6. Thus, even if the purported teachings of Endres and Wang are combined in the allegedly obvious fashion advanced by the Examiner, the resulting combination fails to include all the limitations of claim 6 as herein amended, and correspondingly fails to include all the limitations of claims 7-9 and 12-15 which depend from claim 6.

In view of the foregoing, Applicant submits that the Examiner has not established a *prima facie* case of obviousness with respect to claims 7-9 and 12-15, at least because the purportedly obvious combination fails to include all the limitations of those claims, as herein amended. Applicant accordingly submits that the rejection of claims 7-9 and 12-15 should be withdrawn.

c. claim 10

Applicant has amended claim 6 herein to recite, among other things, "wherein the figure of merit is determined from the equation:

$$F = \frac{M_4}{(M_2)^2}$$

As noted above however, the Examiner has not established that *Endres* or *Wang*, either alone or in combination with any other reference, teaches or suggests the equation as recited in claim 6. Likewise, the Examiner has not established that *Kientz*, either alone or in combination with any other reference, teaches or suggests the equation as recited in claim 6. Thus, even if the purported teachings of *Endres*, *Wang*, and *Kientz* are combined in the allegedly obvious fashion advanced by the Examiner, the resulting combination fails to include all the limitations of claim 6 as herein amended, and correspondingly fails to include all the limitations of dependent claim 10.

In view of the foregoing, Applicant submits that the Examiner has not established a *prima facie* case of obviousness with respect to claim 10, at least because the purportedly obvious combination fails to include all the limitations of claim 10, as herein amended. Applicant accordingly submits that the rejection of claim 10 should be withdrawn.

d. claim 11

Applicant has amended claim 6 herein to recite, among other things, "wherein the figure of merit is determined from the equation:

$$F = \frac{M_4}{(M_2)^2}$$

As noted above however, the Examiner has not established that *Endres* or *Wang*, either alone or in combination with any other reference, teaches or suggests the equation as recited in claim 6. Likewise, the Examiner has not established that *Kolze*, either alone or in combination with any other reference, teaches or suggests the equation as recited in claim 6. Thus, even if the purported teachings of *Endres*, *Wang*, *Kolze* and are combined in the allegedly obvious fashion advanced by the Examiner, the resulting

combination fails to include all the limitations of claim 6 as herein amended, and correspondingly fails to include all the limitations of dependent claim 11.

In view of the foregoing, Applicant submits that the Examiner has not established a *prima facie* case of obviousness with respect to claim 11, at least because the purportedly obvious combination fails to include all the limitations of claim 11, as herein amended. Applicant accordingly submits that the rejection of claim 11 should be withdrawn.

e. claims 16-19 and 22-25

Applicant has amended claim 16 herein, in a similar fashion to claims 1 and 6, to recite, among other things, "wherein the figure of merit is determined from the equation:

$$F = \frac{M_4}{(M_2)^2}$$

Support for this amendment can be found in the application, for example, at paragraph [0025]. As noted above however, the Examiner has not established that *Wang*, either alone or in combination with any other reference, teaches or suggests the equation as recited in claim 1, which is identical to the equation recited in claim 16 as amended herein. Likewise, the Examiner has not established that *Yu*, either alone or in combination with any other reference, teaches or suggests the equation as recited in claim 16. Thus, even if the purported teachings of *Wang* and *Yu* and are combined in the allegedly obvious fashion advanced by the Examiner, the resulting combination fails to include all the limitations of claim 16 as amended herein, and correspondingly fails to include all the limitations of dependent claims 17-19 and 22-25.

In view of the foregoing, Applicant submits that the Examiner has not established a *prima facie* case of obviousness with respect to claims 16-19 and 22-25, at least because the purportedly obvious combination fails to include all the limitations of those claims, as herein amended. Applicant accordingly submits that the rejection of claims 16-19 and 22-25 should be withdrawn.

f. claim 20

Applicant has amended claim 16 herein to recite, among other things, "wherein the figure of merit is determined from the equation:

$$F = \frac{M_4}{(M_2)^2}$$

As noted above however, the Examiner has not established that *Yu, Wang*, or *Kientz*, either alone or in combination with any other reference, teaches or suggests the equation as recited in claim 1, which is identical to the equation recited in claim 16 as amended herein. Thus, even if the purported teachings of *Yu, Wang*, or *Kientz* and are combined in the allegedly obvious fashion advanced by the Examiner, the resulting combination fails to include all the limitations of claim 16 as amended herein, and correspondingly fails to include all the limitations of dependent claim 20.

In view of the foregoing, Applicant submits that the Examiner has not established a *prima facie* case of obviousness with respect to claim 20, at least because the purportedly obvious combination fails to include all the limitations of claim 20, as herein amended. Applicant accordingly submits that the rejection of claim 20 should be withdrawn.

g. claim 21

Applicant has amended claim 16 herein to recite, among other things, "wherein the figure of merit is determined from the equation:

$$F = \frac{M_4}{(M_2)^2}$$

As noted above however, the Examiner has not established that *Yu, Wang*, or *Kolze*, either alone or in combination with any other reference, teaches or suggests the equation as recited in claim 1, which is identical to the equation recited in claim 16 as amended herein. Thus, even if the purported teachings of *Yu, Wang*, or *Kolze* and are combined in the allegedly obvious fashion advanced by the Examiner, the resulting combination fails to include all the limitations of claim 16 as amended herein, and correspondingly fails to include all the limitations of dependent claim 21.

In view of the foregoing, Applicant submits that the Examiner has not established a *prima facie* case of obviousness with respect to claim 21, at least because the purportedly obvious combination fails to include all the limitations of claim 21, as herein amended. Applicant accordingly submits that the rejection of claim 21 should be withdrawn.

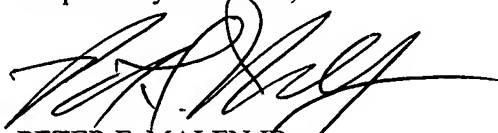
Application No. 10/684,122
Amendment "A" dated September 19, 2005
Reply to Office Action mailed April 19, 2005

CONCLUSION

In view of the remarks submitted herein, Applicant respectfully submits that each of the pending claims 1-4, 6-25 is now in condition for immediate allowance. Therefore, reconsideration of the rejections is requested and allowance of these claims is respectfully solicited. In the event that the Examiner finds any remaining impediment to a prompt allowance of this application that could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate the same with the undersigned attorney.

Dated this 19th day of September, 2005.

Respectfully submitted,



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